

Amendments to the Claims

The following listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1–22 (Canceled)

23. (New) A method of operating a wireless transceiver having an antenna, the antenna having more than one antenna pattern, the method comprising:

determining a current value of communication quality for a transceiver based on a received signal;

if the current value of communication quality is greater than a maximum threshold value of communication quality, then continuing reception of information and transmission of information; and

if the current value of communication quality is less than a minimum threshold value of communication quality, then interrupting reception of information and transmission of information and starting a procedure for the optimization of the antenna pattern.

24. (New) The method of claim 23, wherein if the current value of communication quality is greater than the minimum threshold value of communication quality and less than the maximum threshold value of communication quality, and if a pre-assigned time interval since completion of a previous performance of the procedure for the optimization of the antenna pattern has expired, then interrupting reception of information and transmission of information and starting the procedure for the optimization of the antenna pattern.

25. (New) The method of claim 23, wherein the procedure for the optimization of the antenna pattern includes:

changing the antenna pattern at least one time;

determining a communication quality value at each at least one changing of the antenna pattern;

determining a highest communication quality value among communication quality values determined at each at least one changing of the antenna pattern; and

setting the current value of communication quality equal to the highest communication quality value.

26. (New) The method of claim 25, wherein changing the antenna pattern includes at least one of changing an azimuth bearing, changing an elevation angle, and switching-over a directivity pattern.

27. (New) The method of claim 23, wherein:

if the current value of communication quality is greater than the minimum threshold value of communication quality and less than the maximum threshold value of communication quality, then setting a current threshold value to the same value as one of the minimum threshold value of communication quality, the maximum threshold value of communication quality, and an at least one intermediate threshold communication quality value that is greater than the minimum threshold value of communication quality and less than the maximum threshold value of communication quality;

if at the expiration of a pre-assigned time interval since completion of a previous performance of the procedure for the optimization of the antenna pattern the current threshold value is changed from a preceding current threshold value, then starting the procedure for the optimization of the antenna pattern; and

if at the expiration of the pre-assigned time interval since completion of the previous performance of the procedure for the optimization of the antenna pattern the current threshold value is unchanged from the preceding current threshold value, then omitting performance of the procedure for the optimization of the antenna pattern.

28. (New) The method of claim 27, wherein if an accumulated time during which the current threshold value has remained unchanged is greater than a pre-assigned maximum time interval, then the pre-assigned time interval is set equal to the pre-assigned maximum time interval.

29. (New) The method of claim 27, wherein the current threshold value is set such that it includes a closest value to the current value of communication quality.

30. (New) The method of claim 27, further comprising changing the pre-assigned time interval.

31. (New) The method of claim 30, wherein:
if the pre-assigned time interval is less than a pre-assigned minimum time interval, then setting the pre-assigned time interval the same as the pre-assigned minimum time interval; and
if the pre-assigned time interval is greater than a pre-assigned maximum time interval, then setting the pre-assigned time interval the same as the pre-assigned maximum time interval.

32. (New) The method of claim 23, wherein the current value of communication quality is determined using at least one parameter included in the received signal.

33. (New) The method of claim 32, wherein the at least one parameter includes at least one of a measurement of a level of the received signal, a measurement of a ratio of a level of the received signal to a level of noise, a measurement of a ratio of a level of the received signal to a level of interference, and a measurement of an error ratio.

34. (New) A method of operating a wireless transceiver having an antenna, the antenna having a controlled directivity pattern, the method comprising:

determining a current value of communication quality for a transceiver based on a received signal;

if the current value of communication quality is greater than a maximum threshold value of communication quality, then continuing reception of information and transmission of information;

if the current value of communication quality is less than a minimum threshold value of communication quality, then interrupting reception of information and transmission of information and starting a procedure for the optimization of antenna beam direction;

if the current value of communication quality is greater than the minimum threshold value of communication quality and less than the maximum threshold value of communication quality, then setting a current threshold value to one of a plurality of pre-assigned values;

if at the expiration of a pre-assigned time interval since completion of a previous performance of the procedure for the optimization of antenna beam direction the current threshold value is changed from a preceding current threshold value, then starting the procedure for the optimization of antenna beam direction; and

if at the expiration of the pre-assigned time interval since completion of the previous performance of the procedure for the optimization of antenna beam direction the current threshold value is unchanged from the preceding current threshold value, then omitting performance of the procedure for the optimization of antenna beam direction.

35. (New) The method of claim 34, wherein the plurality of pre-assigned values includes the minimum threshold value of communication quality, the maximum threshold value of communication quality, and an intermediate threshold communication quality value that is greater than the minimum threshold value of communication quality and less than the maximum threshold value of communication quality.

36. (New) The method of claim 34, wherein the plurality of pre-assigned values includes the minimum threshold value of communication quality, the maximum threshold value of communication quality, and a plurality of intermediate threshold communication quality values that are greater than the minimum threshold value of communication quality and less than the maximum threshold value of communication quality.

37. (New) The method of claim 34, wherein if an accumulated time during which the current threshold value has remained unchanged is greater than a pre-assigned maximum time interval, then the pre-assigned time interval is set the same as the pre-assigned maximum time interval.

38. (New) The method of claim 34, further comprising decreasing the pre-assigned time interval when the current threshold value is changed from the preceding current threshold value.

39. (New) The method of claim 34, further comprising decreasing the pre-assigned time interval when the current threshold value is less than the preceding current threshold value.

40. (New) The method of claim 34, further comprising increasing the pre-assigned time interval when the current threshold value is unchanged from the preceding current threshold value.

41. (New) A method of operating a wireless transceiver having an antenna, the antenna having a controlled directivity pattern, the method comprising:

determining a current value of communication quality for a transceiver based on a received signal;

if the current value of communication quality is greater than a maximum threshold value of communication quality, then continuing reception of information and transmission of information; and

if the current value of communication quality is less than a minimum threshold value of communication quality, then starting a procedure for the optimization of antenna beam direction; and

if the current value of communication quality is greater than the minimum threshold value of communication quality and less than the maximum threshold value of communication quality, then starting the procedure for the optimization of antenna beam direction at the expiration of a pre-assigned time interval since completion of a previous performance of the procedure for the optimization of antenna beam direction.

42. (New) The method of claim 41, wherein reception of information is interrupted for the duration of the procedure for the optimization of antenna beam direction.

43. (New) The method of claim 41, wherein transmission of information is interrupted for the duration of the procedure for the optimization of antenna beam direction.

44. (New) The method of claim 41, further comprising:

setting a current threshold value to the same value as one of the minimum threshold value of communication quality, the maximum threshold value of communication quality, and one of a plurality of intermediate threshold communication quality values that are greater than the minimum threshold value of communication quality and less than the maximum threshold value of communication quality; and

omitting performance of the procedure for the optimization of antenna beam direction if at the expiration of the pre-assigned time interval since completion of the previous performance of the procedure for the optimization of antenna beam direction the current threshold value is unchanged from a preceding current threshold value.

45. (New) The method of claim 44, further comprising:

decreasing the pre-assigned time interval if the current threshold value is less than the preceding current threshold value;

increasing the pre-assigned time interval if the current threshold value is greater than the preceding current threshold value; and

increasing the pre-assigned time interval if the current threshold value is unchanged from the preceding current threshold value.

46. (New) The method of claim 41, wherein setting the current threshold value includes:

successively comparing the maximum threshold value of communication quality, each one of the plurality of intermediate threshold communication quality values, and the minimum threshold value of communication quality; and

selecting as the current threshold value a value that is closest to the current value of communication quality.

47. (New) The method of claim 41, wherein the procedure for the optimization of antenna beam direction comprises

changing the pattern of the antenna at least one time; and

determining a communication quality value at each at least one changing of the antenna pattern.